**Digital Financial Transformation and Financial Well-being in India: An Empirical Study**

Abstract

In the era of the technology world, we have witnessed the revolution of digital transactions, not only in financial institutions but also in other industries. In the era of digital banking, Digital Financial Services like Unified Payment Interface (UPI), AePS, Fastag, IMPS, NEFT, RTGS, QR, Debit, Credit card payments, and so on. Among this, the UPI transaction has become well known among all sections of the people in the country. This study is descriptive in nature. Based on Secondary data collected from RBI, National Payment Corporation of India (NPCI), and other government-authenticated sources. It was found that, from just 1 Million transactions in 2016, UPI has since crossed the landmark 10 Billion transactions. The UPI recorded the highest-ever volume of transactions, 45 per cent year-on-year increase in volume, reaching 14.44 billion in July 2024. The value of these transactions grew by 35% year-on-year, totaling Rs 20.64 lakh crore as of August 1, 2024. Further, it is predicted that, daily transactions on the UPI platform will touch 1 Billion by 2025. So, it is clearly witnessed that digital transformation has been taking place in urban as well as in rural India which will establish the financial well-being among the people.

**Key Words:** Digital Financial Service, NPCI, UPI, Banking, ATM, POS

**I. Introduction**

“Digital payments are financial transactions made through digital or online modes. DFS means both the beneficiaries use electronic mediums to exchange money. The Government of India has taken several initiatives to promote and encourage digital payments. As part of the ‘Digital India’ campaign, the government aims to create a ‘digitally empowered’ economy that is ‘faceless, paperless, and cashless’. There are various methods and types of digital payments. For digital payments, merchants and consumers participate as customers, so they need to have bank accounts with online banking features. Financial inclusion in India was very low as recently as 2011, when only 35 percent of adults possessed a bank account, well below the average of other emerging market economies Demirgüç-Kunt and others 2018). Cash was used extensively, with currency in circulation at about 12 percent of Gross Domestic Product (GDP), even though holding cash carried high opportunity cost and availability of ATMs was just 21 per 100,000 adults (IMF Financial Access Survey). two-thirds of adults across the globe use digital payments” (World Bank, 2022). Landscape vision for fair digital finance is for it to be inclusive, safe, data protected and private, and sustainable (Digital Finance: The Consumer Experience, 2023). “DFS helps businesses determine the resources required and the likely time needed before reaching the critical mass necessary to sustain the (line of) business and potentially catalyze the market” (Richard Chamboko 2024).

### **Table 1: Pradhan Mantri Jan - Dhan Yojana Beneficiaries in India as on 24/07/2024**

(figures in Crore)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Bank Name / Type | Number of Beneficiaries at rural/semiurban centre bank branches | Number of Beneficiaries at urban metro centre bank branches | No. of Rural-Urban Female Beneficiaries | Number of Total Beneficiaries | Number of Rupay Debit Cards issued to beneficiaries |
| Public Sector Banks | 25.85 | 15.38 | 22.71 | 41.23 | 31.06 |
| Regional Rural Banks | 8.44 | 1.41 | 5.73 | 9.85 | 3.49 |
| Private Sector Banks | 0.74 | 0.89 | 0.88 | 1.63 | 1.34 |
| Rural Cooperative Banks | 0.19 | 0.00 | 0.10 | 0.19 | 0.00 |
| Grand Total | 35.21 | 17.69 | 29.42 | 52.90 | 35.89 |

https://pmjdy.gov.in/account

Pradhan Mantri Jan Dhan Yojana (PMJDY) scheme, which seeks to ensure that every household in the country has access to a bank account. As of July, 2024, about 52.90 crore beneficiaries are there under PMJDY of which 35.21 crore are in rural areas under which 25.85 crore having bank account in Public sector Banks. Between 2014 and 2017, the percentage of the Indian population with an account at a financial institution increased from 53 to 80 percent; that is, more than 300 million people were brought into the formal financial Sector.

**Various modes of Digital Payments Services in India**

**Credit Cards and Debit Cards**

**Unstructured Supplementary Service Data (USSD)**

The unstructured supplementary service data (USSD) was launched for those sections of India’s population that do not have access to proper banking and internet facilities. Under the USSD, mobile banking transactions are possible without an internet connection by dialling \*99# on any essential feature phone.

### **Aadhaar Enabled Payment System (AEPS)**

### **Unified Payments Interface (UPI) through Mobile phone**

### **Mobile Wallets**

### **PoS Terminals**

### Internet Banking- NEFT, RTGS, and IMPS

### Mobile Banking- QR Coding (Quick Response)

### **Micro ATMs:** A micro ATM is a BC device that delivers essential banking services. These correspondents, who could be local store owners, will serve as a ‘micro ATM’ to conduct instant transactions. They will use a device that will transfer money via an Aadhaar-linked bank account by merely authenticating fingerprint. <https://razorpay.com/learn/digital-payments-india-definition-methods-importance>.

**Hon’ble Prime Minister launched BHIM** on 30th Dec 2016 and within 10 days, the “BHIM app had 1 crore downloads from the Android Play Store and over 2 million transactions across the UPI (Unified Payment Interface) and USSD (Unstructured Supplementary Service Data) platforms. BHIM is interoperable with other Unified Payment Interface (UPI) applications, and bank accounts. BHIM is developed by the National Payment Corporation of India (NPCI), a not-for-profit company for providing retail payment systems in the country under guidance from Reserve Bank of India”. (http://cashlessindia.gov.in/bhim.html)

**Un-Reserved Ticket through Mobile Application**-UTS App (Unreserved Ticketing System):

**Direct Benefit Transfer (DBT):** DBT was initiated with the aim to reform Government delivery system by re-engineering the existing process in welfare schemes for simpler and faster flow of information/funds and to ensure accurate targeting of the beneficiaries, deduplication and reduction of fraud. DBT will bring efficiency, effectiveness, transparency and accountability in the Government system and infuse citizen confidence in the governance.

**II Literature Review**

The literature review is based on an understanding of earlier work done in the same field of research. It gives more insight to the present research, and a research gap can be identified with the help of previous studies. The research gap will be bridged.  Some of the research conducted by the researcher has given.

**Richard Chamboko (2024)** found that “individuals who are significantly more likely to adopt mobile money faster are those residing in urban areas, near mobile money agents, banks, have high levels of education and financial literacy, are middle-aged, belong to social groups, and are self-employed. He also show that gender and income levels do not predict the time to mobile money adoption in Zimbabwe”. **Vinay Kandpal and Rajat Mehrotra (2019)** New technologies will not succeed until customers are satisfied with privacy and security.

Veluthedan, S. P., & Kiran, K. B. (2024), “The findings show that the Digital Financial Services (DFS) variables such as mobile banking, online banking, Automatic Teller Machines (ATM) and Point of Sale (POS) transactions are significantly improved the productivity of the Indian banking industry”.

**Rajesh Kumar et al, (2019)** found that “it requires some time to earn customer confidence even though it is easier and cheaper than the traditional methods. Digital financial services are a great tool to provide the underserved with basic financial services and bring them under the umbrella of financial inclusion”.

**Jimmy Ebong**and **Babu George (2021) “**Leveraging the application of digital innovations in services such as payments and digitizing alternative channels such as agent banking are likely to increase efficiencies in physical channels and the provision of banking services, increasing overall reach and penetration of banking. The fast pace of mobile money penetration is good for speeding financial inclusion. Alliance for Financial Inclusion found that DFS promotes women’s economic inclusion. These contours build on the framework that we used to understand gender and financial inclusion”,

**Tech for good Institute (2022)** The researchers found that consumer trust is positively influenced by system trust and it is a necessary mediator of the latter (positive association between system trust and consumer attitudes and behaviors).

Firdaus Khan et al, (2020) the study found “a direct effect of financial literacy on the financial well-being of working women. The study also found a significant indirect effect such that financial literacy leads to a higher frequency of financial experience of cashless transactions, leading to greater digital financial self-socialization and ultimately positively impacts financial well-being”.

Sreekanth S. P., & Kiran, K. B, (2022) found from “the study Impact of Digital Financial Services on the Profitability Performance of Banks in India that the coefficient of digital financial services variables is found to be significant. This indicates that digital banking facilities could enhance the financial performance of banks”. Jihen Bousrih (2023) found that “cashless transactions have benefited banks' performance. The use of e-money and cashless payments are statistically significant and positively correlated with banks' ROA”.

**III Statement of the Problem**

Digital financial services are the backbone of the Indian Fintech industry. In the era of the technology world, we have witnessed the revolution of digital transactions, not only in financial institutions but also in other industries. A pan-India digital payments survey (covering 90,000 respondents) revealed that 42% of respondents have used digital payments. How this digital advancement will help the rural and unbanked areas into bankable areas will attract the poor people access to financial services. From just 1 Million transactions in 2016, UPI has since crossed the landmark 10 Bn transactions. The UPI recorded the highest-ever volume of transactions in May 2024, which is 14.03 Bn. Daily transactions on the UPI platform will touch 1 Billion by 2025.

“Further, Digital Payments increased by 76 % in transactions and 91% in value (2022). Acceptance of digital payments infrastructure has increased from 170 Mn touch points to 260 Mn touch points (increase of 53%)” (<https://www.investindia.gov.in/sector/bfsi-fintech-financial-services>). The advancement of FINTECH in rural areas, how much impact created by the digital financial efforts in our country. How does DFS impact financial inclusion and access to financial services in India? How do DFS influence financial literacy and behavior among Indian consumers? What are the key benefits and challenges of implementing DFS in rural or underserved areas of India? How can policymakers and financial institutions leverage DFS to promote financial well-being in India?

**Objectives of the Study**

1. To study the bank-wise penetrating level of digital financial Transformation in India
2. To understand through which tool provides more Digital Financial Transformation in India
3. To examine the impact of Digital Financial Services in promoting financial inclusion and wellbeing in India
4. To provide recommendations for policymakers and financial institutions to leverage DFT for promoting financial well-being in India.

**Methodology**

**Research design and Data sources and Sampling**

This research is based descriptive in nature. The present research was done based on secondary data collected from authentic sources of the Government of India, such as website sources like RBI, NPCI, PMJDY, and others. Data were taken online to better understand all types of banks functioning in India, including cooperative banks, which were considered for this research, particularly nationalized banks, private sector banks, and cooperative banks.

**V. Methods and Materials**

The following are some of tables interpreted based on the available date in the format of table regarding the digital banking transactions such as UPI payment, IMPS and bank wise apps based and KCC performance.

**Table 2: Digital Banking Transactions in India**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  |  | **2014** | **2021** | **2022** | **2023** | **2024** |
| **Mobile banking (All Banks including Coop. banks)** | Volume in crore | 11537359 | 3745894318 | 6143797675 | 9334030869 | 13365224974 |
| Value (in cr) | 4421778529 | 11493399674 | 16995795064 | 23169535115 | 30463927379 |
| **NEFT**  **(inward and outward are same** | **Volume in cr** | 71.67 | 3170.00 | 4018.40 | 5476.79 | 7307.34 |
| **Value in cr** | 4577843.86 | 2204302.80 | 2627354.00 | 3049364.43 | **3331461.27** |
| **RTGS (inward and outward are same** | **Volume in crore** | 7545986 | 16765021 | 18926270 | 21189226 | 23183906 |
| **Value in crore** | 5737887 | 10741314 | 11551439 | 13124561 | 16037693 |

**Source: https://www.npci.org.in/**

**From the above table, It was found that during the year 2014, mobile banking transactions were very low that is just one crore volume transactions but at the middle of 2024, the transactions raised to more than 1336 crore transactions against 3046 crore value of money transactions. Further, it was highlighted that RTGS, and NEFT transactions also considerably increased because of digital initiatives in our country.**

**Table 3: UPI transactions of all banks in India**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Year (no. of Banks)** | | **2016 (21)** | **2020 (155)** | **2021 (231)** | **2022(338)** | **2023 (473)** | **2024 (605)** |
| **UPI Trans** | **Volume in (mn)** | 0.09 | 1497.36 | 3,247.82 | 6,288.40 | 9,964.61 | 14,435.55 |
| **Value in cr** | 0.38 | 2,90,537.86 | 6,06,281.14 | 10,62,991 | 15,33,645.20 | 20,64,292.40 |

Source: <https://www.npci.org.in/what-we-do/upi/product-statistics>

**Note: figures given in brackets indicates the no. of active banks**

**Table 3 indicates the UPI transactions by all banks functioning in India. It was found that during the year 2024, the volume of UPI transactions was 14435 million against just 0.09 million in the year 2016. It was inferred that the revolution of smartphones and the friendly availability of usable technology was in the hands of the people.  The value of transactions during the same period can be seen in the same way remarkable achievements. It was concluded that after UPI was introduced, this is a more favorable tool than any other mode. Year after year the number of participating banks also increased considerably i.e in the year 25024 there are 605 banks were active against 21 during the year 2016.**

**Table 4: IMPS transactions of all banks in India**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Year (no. of Banks)** | **2016 (171)** | **2020 (179)** | **2021 (**639**)** | **2022(647)** | **2023 (788)** | **2024 (605)** |
| **Volume in (mn)** | 32.18 | 198.91 | 349.76 | 460.83 | 489.71 | 490.28 |
| **Value in cr** | 25,853.79 | 2,06,950.80 | 3,09,054.12 | 4,44,540.95 | 5,12,311.87 | 5,93,176.60 |

###### Source: <https://www.npci.org.in/what-we-do/imps/product-statistics>

**Note: figures given in brackets indicates the no. of active banks**

##### The table 4, shows the transactions made through IMPS. It was found that about 490.28 million transactions made during the 2024 against 32.18 mn in the year 2016. The same way the value of transactions also shows the same increasing trend during the assessment period i.e Rs. 5.93 lakh crore against 25.85 crore in the year 2016. This is the next widely used tool by the people after UPI. Aadhar enabled payment services also taken up by the people particularly MGNREGS workers oi our country.

##### **Table 5: Top 10 Member Performing Banks under UPI Transactions (July'24)**

| **Sr. No.** | **UPI Remitter Members (Jul-2024)** | **Total Volume (In Mn)** | **Approved %** |
| --- | --- | --- | --- |
| 1 | State Bank of India | 3,912.83 | 94.55% |
| 2 | HDFC Bank Ltd. | 1,214.73 | 95.21% |
| 3 | Bank of Baroda | 954.81 | 92.35% |
| 4 | Union Bank of India | 905.83 | 94.14% |
| 5 | Punjab national Bank | 837.23 | 89.63% |
| 6 | Kotak Mahindra Bank | 746.29 | 92.59% |
| 7 | Axis bank Ltd. | 697.05 | 95.55% |
| 8 | Canara Bank | 688.87 | 93.41% |
| 9 | ICICI Bank Ltd. | 629.64 | 96.15% |
| 10 | Bank of India | 462.31 | 93.79% |

###### Source: <https://www.npci.org.in/what-we-do/upi/upi-ecosystem-statistics>

##### Table 5 shows that the top 10 UPI remitter member banks in India. It was inferred that among the active banks in India, SBI is occupied in the first rank, to the total volume of transactions was Rs. 3912.83 mn during July2024 that is 94.5 per cent approved rate of UPI transactions. In terms of approved rate of percentage ICICI stand first i.e 96.15 per cent.

##### **Table 6: Top 20 performing UPI Apps in India (Jul'24)**

| **Sr.No.** | **Application Name** | **Customer Initiated Transactions** | |
| --- | --- | --- | --- |
| **Volume (Mn)** | **Value (Cr)** |
| 1 | PhonePe | 6983.97 | 1028799.39 |
| 2 | Google Pay | 5341.23 | 735159.20 |
| 3 | Paytm (OCL ) | 1128.97 | 123467.32 |
| 4 | Cred | 142.56 | 48998.89 |
| 5 | Axis Bank Apps | 15.45 | 3943.51 |
| 6 | Amazon Pay | 72.41 | 7995.92 |
| 7 | Navi | 68.47 | 3574.61 |
| 8 | ICICI Bank Apps | 42.13 | 17883.79 |
| 9 | Fampay by Trio | 52.04 | 639.44 |
| 10 | Kotak Mahindra Bank Apps | 44.80 | 6488.28 |
| 11 | WhatsApp | 41.39 | 3215.18 |
| 12 | HDFC Bank Apps | 35.25 | 8747.15 |
| 13 | BHIM | 24.64 | 8756.73 |
| 14 | Yes Bank Apps | 23.81 | 9556.22 |
| 15 | Airtel Payments Bank Apps | 16.63 | 1210.03 |
| 16 | Groww | 15.18 | 12129.34 |
| 17 | Bajaj Finserv | 9.90 | 2309.58 |
| 18 | Slice | 9.41 | 708.27 |
| 19 | Mobikwik | 9.11 | 2431.73 |
| 20 | State Bank of India Apps | 8.06 | 2691.74 |

###### Source: <https://www.npci.org.in/what-we-do/upi/upi-ecosystem-statistics>

###### Table 6 indicates the top 20 UPI apps in India, it is inferred from the table that most of the third-party apps plays major transaction in remitting the amount by the PhonePe, GPay, Paytm, cred apps. The nationalized banks are behind the third-party apps. The Government owned BHIM app stands on thirteenth positions in these respects.  Another one is Government owned SBI also in the 20th position on apps-based transactions.

###### **Table 7: Top 10 Banks Performancein respects of IMPS transactions (July 2024)**

| **Sr. No.** | **IMPS Beneficiary Banks** | **Total Volume (Mn)** | **Approved %** |
| --- | --- | --- | --- |
| 1 | State Bank of India | 110.37 | 97.19% |
| 2 | HDFC Bank | 43.41 | 96.43% |
| 3 | Bank of Baroda | 31.03 | 96.27% |
| 4 | Punjab National Bank | 29.40 | 96.28% |
| 5 | Union Bank of India | 27.26 | 96.21% |
| 6 | Kotak Mahindra Bank | 24.73 | 96.58% |
| 7 | Canara Bank | 20.53 | 96.77% |
| 8 | ICICI Bank | 19.51 | 95.01% |
| 9 | Axis Bank | 15.46 | 96.01% |
| 10 | Bank of India | 15.48 | 95.80% |

Source: <https://www.npci.org.in/what-we-do/imps/imps-bank-performance>

**` Table 7 shows the performance of the top 10 banks regarding IMPS. It is inferred that SBI stands first among the other commercial banks in transferring amounts through IMPS; as of July 2024, SBI. Transferred Rs. 110.37 mn volume of amount also have 97.19 percent of the approved rate. Further, other banks like HDFC ranked second in terms of IMPS transactions.**

**Table 8: Kisan Credit Cards (KCC) progress in India**

| Year | Commercial Banks | | Cooperatives | | Grameen Banks (RRBs) | | Total | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | No. of Operative Accounts (in ‘000) | Amount  Outstanding in Operative  Accounts  (in Rs. cr) | No. of  Operative  Accounts  (in ‘000) | Amount  Outstanding in Operative  Accounts  (in Rs. cr) | No. of  Operative  Accounts  (in ‘000) | Amount Outstanding in Operative  Accounts  (in Rs. cr) | No. of Operative Accounts  (in ‘000) | Amount Outstanding in Operative Accounts  (in Rs. cr) |
| 2018-19 | 23,632 | 4,55,079 | 30,414 | 1,27,436 | 12,253 | 1,27,072 | 66,300 | 7,09,587 |
| 2019-20 | 24,145 | 4,70,144 | 28,938 | 1,36,735 | 12,197 | 1,36,695 | 65,280 | 7,43,573 |
| 2020-21 | 30,696 | 4,56,736 | 30,183 | 1,46,981 | 12,891 | 1,49,416 | 73,770 | 7,53,133 |
| 2021-22 | 26,871 | 4,76,283 | 31,131 | 3,00,350 | 13,348 | 1,62,060 | 71,350 | 9,38,693 |
| 2022-23 | 28,296 | 5,18,636 | 31,344 | 1,89,235 | 13,829 | 1,77,604 | 73,469 | 8,85,475 |
| 2023-24 | 28,144 | 5,11,005 | 31,506 | 1,93,951 | 13,952 | 1,81,140 | 73,602 | 8,86,095 |

Source:[https://pib.gov.in/PressReleasePage.aspx?PRID=1990752 (August](https://pib.gov.in/PressReleasePage.aspx?PRID=1990752%20(August) 2024)

The table 8 shows that total number of operative KCC accounts as on 30 June 2023 are 7.36 crores with total outstanding amount of Rs. 8.86 lakh crores. Of the 7.36 Crore accounts, 23.67 lakh accountspertain to agri-allied sectors. Further it was found that the cooperative banks also performed on par with nationalized banks in terms of operative KCC accounts as well outstanding operative accounts. The beginning of the study period, 2018-19, cooperative banks had operative KCC accounts more than SBI.   So, the cooperative banks have more potential to provide loan particularly KCC in rural areas.

**VI Result and Discussion**

**VI Impact of DFS on financial well-being in India**

The impact of DFS is that a more significant number of new bank accounts opened after 2014 through the PMJDY scheme; based on that, the customers have opportunities to have more savings with banks, and it may be withdrawn as and when they need it. PMJDY Schemes have a significant impact of 76% on financial empowerment. Implementing this scheme nationwide could be an effective means of improving the financial well-being of rural India. Technology plays a major role in transferring cash to other accounts, and it is made simple by using UPI, QR, IMPS, NEFT, RTGS, and so on. The growth in digital transactions can measure the efficacy of Digital India vis-à-vis financial inclusion, the proportion of people with low incomes, and their ability to access banking facilities ([Shailla Draboo](https://www.epw.in/author/shailla-draboo) 2020). This Fintech enables every nook and corner of the country to do transactions, not only remitting but also small traders to corporate traders using this technology for their business. It made easy to avoid currency exchange problems. Using a credit card with an e-money function or being the owner of an account with a mobile money service provider positively and significantly affects a bank’s return. Electronic banking services can boost customer satisfaction, diversify services, and raise quality standards, increasing customer numbers and improving a bank’s profits (Jihen Bousrih 2023).

**VII Conclusion**

The present study attempted to project the online banking transactions of all active commercial, cooperative, and payment banks approved by RBI and NPCI in our country. Commercial banks dominate high-income economies when providing digital financial services (Jihen Bousrih, 2023). Digital finance in India has immense potential to promote financial inclusion, increase credit access, and reduce costs. Merchant payments through the Unified Payments Interface (UPI) account for 57% of total transactions, showcasing the maturity of India’s digital payment ecosystem. This Fintch has helped the customer in many ways. Digital financial tools really helped to the people for their services, and banker side they reduce costs by using digital services. Cooperative banks also providing services to rural areas. India boasts over 8.5 lakh cooperative societies with a member base of nearly 30 crores. These cooperatives engage in a diverse range of activities. The cooperatives banks are now can adopt fintech on par with commercial bank. So, they can utilize or harvest the digital technology to build a strong financial inclusion in India. It was found that, from just 1 Million transactions in 2016, UPI has since crossed the landmark 10 Billion transactions. The UPI recorded the highest-ever volume of transactions, 45 per cent year-on-year increase in volume, reaching 14.44 billion in July 2024. The value of these transactions grew by 35% year-on-year, totaling Rs 20.64 lakh crore as of August 1, 2024. Further, it is predicted that, daily transactions on the UPI platform will touch 1 Billion by 2025. So, it is clearly witnessed that digital transformation has been taking place in urban as well as in rural India which will establish the financial well-being among the people.

**Disclaimer (Artificial intelligence)**

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Details of the AI usage are given below:

1.

2.

3.

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